

APRIL 2021
EBS 337
ICT INTEGRATION IN EDUCATION
1 HOUR 45 MINUTES

Candidate's Index Number:

Signature:

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
SCHOOL OF EDUCATIONAL DEVELOPMENT AND OUTREACH
INSTITUTE OF EDUCATION

COLLEGES OF EDUCATION
FOUR-YEAR BACHELOR OF EDUCATION (B.ED)
THIRD YEAR, END-OF-FIRST SEMESTER EXAMINATION, APRIL, 2021

APRIL 8, 2021

ICT INTEGRATION IN EDUCATION

2:00 PM – 2:45 PM

This paper consists of two sections, A and B. Answer ALL the questions in Section A and TWO questions from Section B. Section A will be collected after the first 45 minutes.

SECTION A
[40 MARKS]

Answer ALL the questions in this Section.

For items 1 to 20, each stem is followed by four options lettered A to D. Read each item carefully and circle the letter of the correct or best option.

1. A teacher is interested in using technology to expand students' understanding of the process of scientific inquiry. Which of the following student activities would **most** effectively meet this goal? Using

 - A. database software to organize scientific data.
 - B. simulation software to design and conduct investigations.
 - C. the Internet to participate in virtual field trips.
 - D. the Internet to research recent scientific discoveries.

2. A JHS teacher has one computer in the classroom that is connected to the Internet. Which of the following would be the **most** effective plan for student use of this computer? Students use the computer

 - A. as a reward for superior performance.
 - B. for research activities.
 - C. to complete drill-and-practice activities.
 - D. to practice basic computer skills.

3. Which of the following activities would be **most** effective in improving students' skills in critically analyzing Internet-based information?

 - A. Evaluating news-related Web sites for objectivity.
 - B. Learning to use Web-browsing software.
 - C. Using an electronic dictionary to look up vocabulary words.
 - D. Using an online encyclopedia to find information for a research paper.

4. A student who has difficulty in concentrating and has a low tolerance for frustration is planning a science research project that will include a final presentation. Which of the following educational technologies is **most** likely to benefit this student?
 - A. A large keyboard for input.
 - B. An assistive listening device.
 - C. Graphic organizer software.
 - D. Text-to-speech software.

5. When evaluating software designed to be used independently by students, it is **most** important to determine whether the software
 - A. has an abundance of graphics.
 - B. has multiplatform capabilities.
 - C. integrates audio, text, and video.
 - D. is easy to navigate.

6. Ms. Irene's students use cooperative learning, inquiry based and project-based learning approaches in creating their digital units plans. What can be developed among the learners through these approaches?
 - A. Construction of knowledge and information exchange.
 - B. Information processing and active learning.
 - C. Repetition and active learning.
 - D. Repetition and information delivery.

7. Mrs. Mensah would like to use audiocassette tape in teaching a lesson in English. In which activity is audiocassette tape very effective in the teaching-learning process?
 - A. Building concepts.
 - B. Composing poems.
 - C. Developing listening skills.
 - D. Teaching creative writing.

8. When using instructional material, what should the teacher primarily consider?
 - A. It must be suited to the lesson objective.
 - B. It must be updated and relevant to Ghanaian settings.
 - C. The material must be new and skillfully made.
 - D. The material must stimulate and maintain students' interest.

9. TPACK refers to
 - A. Teachers' Pedagogical Content Knowledge.
 - B. Teachers' Pedagogical Creative Knowledge.
 - C. Technological Pedagogical Content Knowledge.
 - D. Technological Pedagogical Creative Knowledge.

10. The following are dynamic elements of multimedia **except**
 - A. animation.
 - B. audio.
 - C. text.
 - D. video.

11. When a computer plays the role of a tutor, the computer is typically being used as a
 - A. machine.
 - B. teaching machine.
 - C. tool.
 - D. tutor.

12. CBT provides a complete lesson on a specific topic including the following **except**
- A. evaluating student learning.
 - B. evaluating teacher.
 - C. presenting new information.
 - D. providing practice.
13. Computer tutorial software has the capability to be tolerant or pass on students' responses.
- A. decision
 - B. judgment
 - C. law
 - D. query
14. It is a fact that students learn to write more effectively through visualizing their stories. This is the advantage of
- A. digital media.
 - B. digital storytelling.
 - C. multimedia story telling.
 - D. storytelling.
15. Multimedia elements are classified into groups.
- A. 2
 - B. 3
 - C. 4
 - D. 5
16. The **most** fundamental multimedia element is
- A. audio.
 - B. graphics.
 - C. text.
 - D. video.
17. Images including picture, photograph, illustration, drawing and such others are examples of
- A. art works.
 - B. graphics.
 - C. hypermedia.
 - D. simulation.
18. A series of images put together to give the effect of movement in multimedia is called
- A. animation.
 - B. graphics.
 - C. hyperspace.
 - D. stimulation.
19. A way in which the educator presents content knowledge to their students in an effective way and addressing challenges or misconceptions from the learner is
- A. integration.
 - B. model.
 - C. pedagogy.
 - D. the nature of the teacher.

20. Inspiration and Kidspiration are
- A. computer tutorials.
 - B. concept mapping tools.
 - C. mind tools.
 - D. visualization tools.

Items 21 to 30 are statements under a **STATEMENT** column. Read each statement carefully and indicate whether it is True or False by writing True or False for each statement under the **ANSWER** column.

SN	STATEMENT	ANSWER
21.	It is not a big task to suggest that teachers need to up-date their technological skills in a culture where new technologies are being developed.	
22.	The classic classroom computer lab design serves as the default layout in many High School and Colleges.	
23.	The U-shaped computer lab design offers the most privacy for students and reduces to the minimum, the possibility of cheating during tests or exercises.	
24.	If educators do not vet and evaluate technology-based tools before implementing them into their classroom, the technology becomes "hollow expectation".	
25.	Back-to-back computer lab designs allow many students to fit in a relatively small space.	
26.	The use of images in teaching and learning is to satisfy the fact that majority of people are visual learners.	
27.	WebQuest is a type of educational software that can track student responses; make inferences about his/her strengths and weaknesses; and then tailor feedback, provide additional exercises, or offer hints to improve performance.	
28.	Mindtools are computer applications that enable learners to represent, manipulate, or reflect on what they know, rather than to reproduce what someone else knows.	
29.	Representational graphics are used to represent the actual appearance of something.	
30.	Anti-spyware programs install themselves onto computers to gather personal information.	

Items 31 to 40 consist of three columns labelled “TERMS” “RESPONSE” and “DEFINITION” - under which are definitions of curriculum related terms labelled A to L. Match each term with the appropriate definition by writing the letter of the alphabet that matches the Term under the RESPONSE column.

S/N	RESPONSE	TERMS	DEFINITION
31.		Socratic Instruction	A. A guided inquiry approach in which students develop understanding through comparison of phenomena that have common characteristics with those that do not.
32.		Computer as Tutor	B. The use of on-screen text or symbols to highlight important information.
33.		Segmenting	C. Is the chunking of information to allow learners to engage with small pieces of new information as well as to give them control over the flow of new information.
34.		Weeding	D. Is the elimination of interesting but extraneous information from the video.
35.		Concept Formation	E. Applications that enable learners to represent, manipulate, or reflect on what they know rather than to reproduce what someone else knows.
36.		Database	F. Computer software that used to organize and retrieve information.
A.		Concepts maps	G. Graphical tools for organizing and representing knowledge”.
A.		Graphic organizers	H. Visualization tools that that help learners sort and record information.
39.		Concept Attainment	I. The teaching which focusses on giving students questions, not answers.
40.		Signalling	J. The computer is typically used as a teaching machine, that is, to teach new content to students.
			K. Is a guided inquiry technique in which students are asked to examine and classify phenomena inductively.

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SECTION B
[60 MARKS]

Answer any TWO questions from this section in the answer booklets provided.

1.
 - a. Outline **three** ways of using multimedia in classroom. [6 marks]
 - b. Explain any **three** barriers of integrating TPACK in the classroom. [6 marks]
 - c. As a new teacher posted to a school which has no ICT lab for instruction, you have been provided with funds to establish a computer lab for your school. Discuss **three** questions to consider when designing and planning your computer laboratory stating a reason for each consideration. [12 marks]
 - d. State **three** ways of maintaining and managing computer laboratories. [6 marks]

2.
 - a. Explain **two** key principles for implementing ICT in education. [6 marks]
 - b. List **four** duties of a computer laboratory manager. [4 marks]
 - c. The TPACK model highlights areas of overlap between the three core components of technological implementation and integration into a learning environment. With the aid of diagram, briefly discuss the three core components of the TPACK Model. [12 marks]
 - d. State any **four** benefits of technology integration in the classroom. [8 marks]

3.
 - a. Discuss the term *computer as a tutor*. [10 marks]
 - b. State **four** advantages of using graphics in instruction. [8 marks]
 - c. Explain **three** benefits of using videos in the classroom. [9 marks]
 - d. Explain any **three** advantages of hypertext. [3 marks]